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**EXHIBIT B**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Sholom S. Rosen

Group Art Unit: 2132

Serial No.: 09/314,738

Examiner: BARRON JR., G.

Filed: May 19, 1999

For: ***ELECTRONIC TICKET VENDING SYSTEM***

**APPEAL BRIEF UNDER 37 C.F.R. § 1.192**

**BOX AF**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Pursuant to the provisions of 37 C.F.R. § 1.192, Applicant submits this Appeal Brief, in triplicate, in support of the Appeal filed on February 20, 2002, of the final rejection of pending claims 1-11 as set forth in the Office Action dated September 20, 2001. Also submitted herewith is the requisite fee under §1.17(c) in the amount of \$320, as well as a Petition for Extension of Time and associated fee to extend the time for filing this brief until September 20, 2002. The Commissioner is authorized to charge any additional fees necessitated by this Brief to deposit account no. 13-4500 (Order No. 0225-4185).

Applicant respectfully requests that this Brief be fully considered by the Board and that the Examiner's rejection of the claims be reversed for the reasons stated herein.

**I. REAL PARTY IN INTEREST**

Citibank N.A., having a business address of 399 Park Avenue, New York, New York 10043, is the real party in interest, based on an assignment filed in parent application Serial No. 08/234,461, and recorded in the United States Patent and Trademark Office (USPTO) on April 28, 1994, at Reel 6992, Frame 0297.

**II. RELATED APPEALS AND INTERFERENCES**

Applicant is unaware of any related appeals and interferences. Upon filing the present application, however, Applicant filed a Request for Interference pursuant to 37 CFR § 1.607, requesting that an interference be declared between the present application and U.S. Patent No. 5,754,654. A copy of this Request for Interference is annexed as Exhibit A.

**III. STATUS OF CLAIMS**

Claims 1-11 are pending in this application, and are the claims as filed in the present application (Applicant neither made nor proposed amendments to the claims as filed). These claims stand rejected and are appealed. A copy of the claims is annexed hereto.

**IV. STATUS OF AMENDMENTS**

After the final action, Applicant did not submit an amendment, but presented additional rebuttal arguments in a Request for Reconsideration.

**V. SUMMARY OF THE INVENTION**

The present invention relates to an "electronic ticket vending system", in which an electronic ticket is exchanged for electronic money. The system, an embodiment of which is generally shown in Figure 1, is adapted to perform both vending (when executing the Purchase of Electronic Merchandise protocol of Figures 12A-12B) and refunding (when executing the Dispute Over Electronic Merchandise protocol of Figures 30A-30E). A customer has a customer transaction device which is an electronic processing device having three components, namely, a trusted agent, a money module and a host processor. Figure 3 shows an embodiment of the complete transaction device 122 with the host processor being identified by reference numeral 124. A merchant also has a transaction device including a money module, a trusted agent and a host processor. Electronic tickets are transferred between the trusted agents; electronic money is transferred between the money modules. As disclosed at page 35, lines 10-16, a trusted agent and money module may be fabricated as a single device. The host processor provides various functions such as a human/machine interface that allows the customer or merchant to interact with the system, and a communications device that enables the customer transaction device to communicate with the merchant transaction device. Page 14, line 3 to page 15, line 7.

The electronic ticket vending system as recited in claim 1 comprises an electronic ticket vending device that generates an electronic ticket and executes at least one of vending and refunding by exchanging the generated electronic ticket with

electronic money. A communication line is connected to the vending device. At least one host processor is connected to the communication line and executes input, output, transmission and reception for executing at least one of vending and refunding of an electronic ticket. The electronic ticket vending system also comprises an electronic ticket storage device, having an interface that electronically connects to the host processor. The electronic ticket storage device stores electronic money, an electronic ticket, and a transaction history including transactions of electronic money and electronic tickets. The transaction history is updated, by a program stored in the electronic ticket storage device, after a transfer of either electronic money or an electronic ticket. In response to an electronic ticket purchase request or an electronic ticket refund request, by at least the host processor or the electronic ticket storage device, at least the electronic ticket or the electronic money is sent from the electronic ticket vending device via said communication line.

Claim 11 is another claim directed to an electronic ticket vending system, claim 11 expressly reciting that the electronic ticket vending device and the electronic ticket storage device have programmed processors. Claim 6 is directed to an electronic ticket vending method in a system corresponding to apparatus claim 1.

**VI. STATEMENT OF ISSUES ON APPEAL**

The only issue on appeal is whether claims 1-11 are unpatentable under 35 U.S.C. §112, first paragraph, for lacking a written description in the specification.

**VII. GROUPING OF CLAIMS**

Claims 1-11 may be considered as one group for purposes of this appeal only.

**VIII. ARGUMENT**

The Examiner has continuously rejected claims 1-11 under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, in a first Office Action (mailed May 10, 2001), the Examiner asserted that the written description supports neither the electronic ticket storage device of claims 1, 6, and 11, nor the sending, receiving, and recording of electronic tickets and money as recited in claims 6-10. In response, Applicant submitted a Request for Reconsideration (filed July 6, 2001), rebutting each of these grounds underlying the § 112, ¶1, rejection.

In a final Office Action mailed September 20, 2001, the Examiner maintained the § 112, ¶ 1 rejection, re-asserting that the written description does not support the electronic ticket storage device of claims 1, 6 and 11. The final Office Action also repeated the assertion that the written description does not support the sending, receiving, and recording of electronic tickets and money as recited in claims 6-10; however, the Examiner did not respond to Applicants rebuttal arguments concerning these sending, receiving, and recording recitations. Additionally, the final Office Action

(in the "Response to Arguments" section) newly asserted that there is no support for a terminal means separate from the electronic ticket storage means.

In response to the final Office Action, Applicant submitted (on January 4, 2002) a further Request for Reconsideration. Applicant further elaborated reasons why the specification provides a written description of the electronic ticket storage device of claims 1, 6 and 11. Applicant also rebutted the Examiner's assertions concerning support for a terminal means separate from the electronic ticket storage means. Further, Applicant noted that while the final Office Action reasserted lack of support for the sending, receiving, and recording of electronic tickets and money, the final Office Action did not provide any response to Applicant's rebuttal arguments that are set forth in the 7/6/01 Request for Reconsideration. Accordingly, Applicant respectfully requested that if the Examiner were maintaining this basis for the § 112, ¶1 rejection, that the Examiner respond to Applicant's rebuttal arguments.

On March 5, 2002, the Examiner mailed an Advisory Action along with a Response to Arguments, which addresses addresses (1) the electronic ticket storage device, and (2) a terminal means separate from the electronic ticket storage means , but again does not address the sending, receiving, and recording of electronic tickets and money. Therefore, based on the record, Applicant submits that the § 112, ¶ 1, rejection based on sending, receiving, and recording of electronic tickets and money as recited in claims 6-10 has been overcome during prosecution, viz., the specification provides a written description of sending, receiving, and recording of electronic tickets and money as recited in claims 6-10.

Accordingly, for purposes of this appeal, the issue focuses on whether the written description supports (1) the electronic ticket storage device, and (2) a terminal means separate from the electronic ticket storage means, as recited in Applicant's claims.

Compliance with the written description requirement is a question of fact. Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563 (Fed. Cir. 1991). As recited in the Office Actions and Applicant's Requests for Reconsideration, the inquiry is whether the specification conveys, with reasonable clarity to those skilled in the art that, as of the filing date, the inventor was in possession of the invention as claimed. Id. at 1563-64.

Applicant respectfully submits that, for at least the reasons elaborated below, the specification clearly provides a written description of (1) the electronic ticket storage device, and (2) a terminal means separate from the electronic ticket storage means.

**A. The Electronic Ticket Storage Device**

In the first Office Action, the Examiner stated the following:

[D]isclosure of the instant application is directed to a transaction device comprising a trusted agent and a money module. This arrangement for separate trusted agent and money module components, is in keeping with the objectives of the instant application for a flexible, anonymous and trusted electronic system . . . .It is not established how the proposed claims, which set forth an invention that teaches away from separate components, could be supported by a disclosure that describes an invention having separate components, and the benefits and uses of the invention that is comprised of the separate components.” ,

Basically, the Examiner alleged that there is no support for an electronic ticket storage device as claimed because Applicant's disclosure describes implementing a money module and a trusted agent as separate components.

In the 07/06/01 Request for Reconsideration (i.e., responding to the first Office Action), Applicant explained with reference to the following excerpt (hereinafter referenced as "the first excerpt") that the instant application clearly supports an electronic ticket storage device as claimed because the specification clearly and reasonably conveys to an ordinarily skilled artisan that a money module and a trusted agent may be integrated as a discrete component.

*It may be noted that instead of the trusted agent 120 and money module 6 being embodied as discrete tamper-proof components, they may be fabricated as one tamper-proof module. In this case, it would not be necessary to establish a secure session for communication between trusted agent 120 and money module 6 in the same transaction device 122. However, discrete money modules 6 and trusted agents 120 are preferable in that such a configuration allows for greater application flexibility. [Emphasis added.]*

[Page 35, lines 10-16, (US Patent No. 5,557,518 at col. 20, lines 4-12) (emphasis added).]

Applicant remarked that this passage unambiguously and expressly conveys to the ordinarily skilled artisan that in an alternative embodiment of the invention a money module and a trusted agent may be integrated as a discrete component, viz., an electronic ticket storage device. As this passage also explains, the illustrative embodiment shows money modules 6 and trusted agents 120 implemented discretely

because “such a configuration allows for greater application flexibility”. For example, the ordinarily skilled artisan will appreciate that such a discrete or modular configuration allows the electronic ticket system to be easily integrated with any electronic money scheme (e.g., as a co-processor). This flexibility associated with such a configuration thus simply represents an attribute of an illustrative embodiment of the invention—it does not limit the invention to such a configuration. And, as discussed, the specification expressly conveys that an alternative configuration provides both the money module and the trusted agent implemented as a discrete component.

In response to Applicant’s arguments presented in the 7/6/01 Request for Reconsideration, the final Office Action states, in part, the following:

Applicant’s specification describes separate communications between money modules and trusted agents. The description indicates that a fabrication of trusted agent and money module as a single tamper proof module would eliminate the requirement for secure communications between a money module and a trusted agent, but still describes the separate communications between money modules from customer to merchant, and trusted agents from merchant to customer, and separate transaction histories for each. [Emphasis added.]

Concerning this issue of the trusted agent and the money module being integrated as one tamper proof module, an Interview Summary (mailed 10/31/01) states that “Examiner Barron pointed out that integration of the hardware components does not necessarily also support the integration of the functional or logical activities of the elements. In particular, the trusted agent and the money module have separate transaction histories and update programs.”

In the Request for Reconsideration submitted January 4, 2002, (responding to the final Office Action), Applicant further elaborated why to an ordinary skilled artisan the specification clearly and reasonably conveys structurally and functionally integrating a money module and an associated trusted agent, thus clearly supporting an electronic ticket storage device as claimed. In elaborating these reasons, Applicant referred not only to the above-cited excerpt, but also to the following (Page 36, lines 1-9 ('518 patent col. 20, lines 29-42); hereinafter referred to as "the second excerpt"):

*In the preferred embodiment, the money module session is established in a manner similar to the establishment of a trusted agent session. The money modules 6 would therefore hold their own certificates containing their public keys. The swapping of certificates and random numbers (for XORing) enables the secure creation of session keys (MM/MM). The Establish Session protocol used by money modules is shown in FIG. 38 and described subsequently. *The overall system security pertaining to the money modules may be integrated with that for the trusted agents 120, but is preferably separate to provide for enhanced system security and system flexibility.* [Italicized and underlined emphasis added.]*

As an initial matter, Applicant respectfully submitted that the Office Action's assertion that the specification does not convey functionally integrating the trusted agent and associated money module because the specification "still describes the separate communications between money modules from customer to merchant, and trusted agents from merchant to customer" apparently does not consider this excerpt which expressly describes, as an alternative embodiment, implementing a common communication channel for inter-transaction device communications between money modules and between trusted agents. More specifically, to those skilled in the art, it clearly and reasonably conveys integrating the security functions of a trusted agent and

its associated money module such that they may use the *same* certificate (and public key), and thus may communicate over a common communication channel with another transaction device's money module and/or trusted agent. This integrated security and common communication is clearly set forth as an alternative to a trusted agent and its associated money module having separate security, having their own certificates (and public keys), and thus communicating via separate communication channels and necessarily requiring establishing separate communication sessions.

In the Request for Reconsideration submitted January 4, 2002, Applicant further elaborated how the specification, including the first and second excerpts, clearly supports the electronic ticket storage device as claimed, Applicant's remarks presented for additional clarity under three subheadings as follows.

**1. "One Module" Clearly Conveys Functionally/Logically Integrating a Trusted Agent and Its Associated Money Module**

Referring to the first excerpt, *supra*, Applicant submitted that this description of the trusted agent and money module being "*fabricated as one tamper-proof module*" reasonably conveys to those skilled in the art that the trusted agent and money module are fabricated as an integrated *functional* and structural unit (e.g., an integrated hardware and/or software device, such as a program controlled processor, implementing both the trusted agent and money module *functions*).

First, Applicant noted that the specification describes the money module and trusted agent each as *functional* modules, not limited to a specific physical embodiment. For instance, they are each described with reference to their functional components. See, e.g., Figs. 4A-4D and page 15, line 11 et seq. ('518 patent at col. 8,

line 55 et seq.); Figure 4 and col. 11, line 37 et seq. of US Patent No. 5,453,601.

Indeed, the '601 patent specification states the following:

[A]ll . . . money modules may be implemented programmatically or by direct electrical connection through customized integrated circuits, or a combination of both, using any of the methods known in the industry for providing the *functions* described . . . [and] [t]hose skilled in the art will appreciate that . . . commercial semiconductor integrated circuit technology would suggest numerous alternatives for actual implementation of the inventive *functions* of the money module that would still be within the scope of the invention. [Col. 10, lines 13-25 (emphasis added).]

In describing transaction money modules, the '601 patent further states (col. 11, lines 33-36) that "[b]ecause the Transaction money module 4 can take on a variety of physical representations, it will be described by the functions performed", and the '601 patent similarly describes other money modules according to their functions. Moreover, the instant application sets forth the protocols implemented by the trusted agent and money module with reference to operational flow charts (e.g., Figures 12-20), again highlighting that the trusted agent and money module are characterized by their functions, and not limited to a specific structural embodiment.

Second, the specification further expressly conveys to those skilled in art that a "module" (e.g., a trusted agent functional unit or money module functional unit) is physically embodied as hardware and/or software (e.g., one or more program controlled processors) designed to carry out the *functions* of that module (e.g., of the trusted agent or money module). For example, the '601 patent explains that "[i]t is contemplated that . . . money modules . . . will be a combination of tamper-proof

hardware and application software". '601 patent at col. 8, lines 10-14. Additionally, the instant application states that "[a] trusted agent is a combination of hardware and software components [and] [i]t is tamperproof", thus clearly conveying that a trusted agent is a "module" physically embodied in ways (e.g., as one or more program controlled processors) similar to money module implementations. Page 6, lines 17-18 ('518 patent at col. 8, lines 9-11).

Accordingly, the explicit description of the trusted agent (i.e., functional module) and its associated money module being fabricated as *one* tamper-proof "*module*" clearly and reasonably conveys that these *functional components* (i.e., modules) may be provided as an integrated functional component (i.e., a module). For example, their respective functions may be logically implemented by a unitary hardware and/or software device (e.g., a processor programmed to execute trusted agent and money module functions). Simply, the disclosure explicitly describes implementing as one functional component (i.e., one module) that which a preferred embodiment describes as being implemented with two functional components (i.e., two distinct modules, namely, trusted agent and money module) that are physically separated.

**2. Modifying the Flowcharts of the Disclosed Embodiments in Accordance With the Description Would Result in a Operational Flow Clearly Suited for Implementation as an Device that Physically and Logically/Functionally Integrates a Trusted Agent and Its Associated Money Module**

Applicant also respectfully submitted that the description, including the first excerpt and second excerpt, *supra*, describes modifying the purchase of electronic money protocol (see, col. 17, line 43-col. 23, line 61) in a manner that would result in a

process flow that those skilled in the art would clearly and reasonably understand as being a logical/functional integration of trusted agent and money module (and as capable of being implemented, for example, by a common processor executing a program that implements all money module and trusted agent functions).

As Applicant explained in the 7/6/01 Request for Reconsideration, having trusted agent and associated money module functional components embodied in physically separate tamper-proof devices is a preferred—and technically more challenging—way of implementing their functionality that “allows for greater application flexibility” (e.g., it allows trusted agents to be modularly added into any electronic monetary system). Those skilled in the art would understand that the protocols (e.g., purchase of electronic merchandise) described in detail with reference to the flowcharts represent a technically more difficult implementation inasmuch as they describe how to ensure secure communications and transactions (e.g., against the transacting parties and third parties) when a trusted agent functional module and its associated logical money module are implemented in physically separate tamper-proof devices. In the described embodiment, such secure communications are ensured by establishing and using four encryption channels, schematically depicted in the functional block diagram of Figure 13: two (438 and 440) between the respective TAs and MMs, one (436) between the TAs, and one (442) between the MMs.

The ordinarily skilled artisan would further understand that the express description of providing an alternative—and technically much simpler—embodiment (i.e., trusted agent and associated money module functions combined in one tamper-proof

component) by (1) *eliminating* (as per the first excerpt) secure sessions for communications between a trusted agent and its associated money module (i.e., eliminating secure channels 438 and 440 in Fig. 13), and (2) *eliminating* (as per the second excerpt) separate secure sessions for inter-trusted agent and inter-money module communications between transaction devices [collapsing 436 and 442 (e.g., eliminating 442) into one common communication channel handling both inter-trusted agent and inter-money module logical messages], may be provided *by simply excising* such security-related steps from the explicitly disclosed process flow that enables physically separate trusted agent and money module, resulting in a process flow that is logically a serial flow (i.e., a serial sequence of trusted agent and money module functional steps). That is, the resulting operational flow is a protocol represented by a sequence of cooperative/interdependent steps/operations effected by trusted agent and associated money module logical entities (e.g., functions, objects, and/or subroutines) without security layers delimiting them, which flow the ordinarily skilled artisan would understand may be implemented in hardware/software on one or more programmed processors to provide a logically/physically integrated trusted agent and money module. Simply, the sequence is *one sequential logical* flow of integrated trusted agent and money module steps, *viz.*, the trusted agent and money module are logically integrated.

In more detail, referring to Figures 16A-16E and the corresponding description in the specification, which describes an anonymous payment protocol and illustrative variations thereof, those skilled in the art would clearly understand that an alternative embodiment in which the secure session between a trusted agent and its associated

money module is eliminated (as expressly described by the first excerpt, *supra*, and corresponding to eliminating channels 438 and 440 in Fig. 13) could be provided by *eliminating* (i) steps 520-536 (which involve establishing the secure session), (ii) steps 538-544 involving the sending/receiving of R(1) and R(2) (the random numbers making up the session key); (iii) steps that send messages by encrypting with TA/MM session keys (steps 560, 564, 574, 578, 606, 616, 584, and 586); and steps 548-556 which relate to conveying information for forming the TA/MM session key in the money modules.

In further view of the second excerpt, which clearly and reasonably conveys integrating the overall system security (e.g., involving the management of certificates and session keys) of the trusted agents and money modules, and thus using a common communication channel for inter-transaction device messages logically originating from either a trusted agent or its associated money module, those skilled in the art would further clearly understand that such an embodiment may be provided by eliminating step 546 (eliminating channel 442 in Fig. 13) because this step involves establishing a MM-to-MM session (but an inter-transaction device session has already been established).

Additionally, because the trusted agent/associated money module sessions are eliminated as well as the separate inter-trusted agent and inter-money module sessions (i.e., these communications use a common channel), the ordinarily skilled artisan would clearly understand that the messages designated "E-routed" messages (steps 582, 602, 622, 626, and 632) become regular messages sent over the common secure

communication channel used for inter-transaction device communications (used for logically/functionally TA-to-TA messages as well as logically/functionally MM-to-MM messages). [Note, E-routed messages are described as messages using more than one of the session keys MM/MM, TA/MM and TA/TA that are employed in the disclosed embodiment that is suited for physically separate trusted agents and money modules. In that embodiment, inter-money module messages are sent via the trusted agent/associated money module session, and further encrypted by the MM/MM session key and the TA/TA session key. See, e.g., col. 21, lines 43-46.] Further, in view of the foregoing, those skilled in the art would understand that the message protocols represented by Figs. 17-20 would be eliminated.

Applicant respectfully submits that an ordinarily skilled artisan considering this operational flow (and concomitantly, the modified functional block diagram of Fig. 13<sup>1</sup>) that clearly results (note, steps are only eliminated, no additional steps are required) by modifying the disclosed operational flow as described in the specification (and particularly, as per the first and second excerpts) would clearly understand that this resulting operational flow is a logical integration of trusted agent and associated money module functions at least inasmuch as it is a single flow, with message passing between logical components (e.g., trusted agent functions or objects and money module functions or objects), has a common security system for inter-transaction device

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<sup>1</sup> Applicant notes that the functional block diagram of Figure 13, modified as per the express description set forth in the first and second excerpts, results in a single, common secure communication channel for messages between either TAs or MMs of different transaction devices (with a common certificate for both the TA and MM in a given transaction device) and no secure channel (i.e., 438 and 440) between a trusted agent and its associated money module.

messages (e.g., logical money module-to-money module messages and/or logical trusted agent-to-trusted agent messages), and has no security provisions for messages between a trusted agent and its associated money module.

**3. Additional Remarks Concerning Functional Integration**

In the Request for Reconsideration submitted January 4, 2002, Applicant additionally noted that even if a program (operating on one or more processors) physically or logically stores electronic money transaction history information in a different format and/or in different steps from electronic ticket information, the program nevertheless updates a transaction history "including transactions of electronic money and electronic tickets", and thus it cannot be said that "the trusted agent and the money module have separate transaction histories and update programs". (Indeed, the Hiroya patent (USP 5,754,654) describes using separate steps for storing the electronic ticket information and the electronic money.)

Applicant further noted that the trusted agent and money module may be considered as being functionally integrated even in the operational flows disclosed for physically separate trusted agent and money module (e.g., Figs. 16A-16E). Particularly, they may be considered functionally integrated at least to the extent that these respective functional components (and their functional sub-components; see, e.g., Fig. 4A for the trusted agent's sub-components) are cooperative and interdependent in effecting a transaction (e.g., anonymous payment protocol); however, they may be considered separate functional modules to the extent that they

communicate via security channels implemented because they are in physically separate tamper-proof devices. Thus, fabricating them as one tamper-proof module and eliminating security channels—as the specification expressly describes—may be considered as merely *further* functionally integrating (i.e., to the extent that delimiting security layers are removed) the already functionally integrated trusted agent and money module.

In the Examiner's Response to Arguments that accompanied the Advisory Action, the Examiner states the following:

The Request for Reconsideration points to a second excerpt at page 36, lines 1-9, to show that the description expressly describes, "as an alternative embodiment, implementing a common communication channel for inter-transaction device communications between money modules and trusted agents." However, this passage, which describes as a less preferable alternative embodiment, system security pertaining to the money modules may be integrated with that for the trusted agents 120, is solely directed to the system security between the money module and the trusted agent. Applicant's argument that extending this "integration" to all other functionality between the money module and the trusted agent is not apparent. Nowhere in the specification is there express description of an embodiment where the separate transaction functions of the money module and the trusted agents are to be integrated.

As explained above, in Applicant's Request for Reconsideration after final, Applicant addressed this inter-transaction device communications issue as an initial matter to rebut the Examiner's allegation that the specification does not support functionally integrating the trusted agent and associated money module because it "still describes the separate communications between money modules from customer to

merchant, and trusted agents from merchant to customer". It appears that the Examiner's Response to Arguments statement, recited above, now acknowledges that the specification supports integrating the trusted agent and associated money module such that they may communicate over a common communication channel with another transaction device's money module and/or trusted agent. Accordingly, the reasoning underlying the Examiner's allegation is further undermined and weakened.

While acknowledging Applicant's position, the Examiner's Response to Arguments statement cited above nevertheless alleges that the claimed electronic ticket storage device is not supported because the specification does not provide an "express description of an embodiment where the separate transaction functions of the money module and the trusted agents are to be integrated." Presumably, these "separate transaction functions" that allegedly are not expressly described as integrated include functions of the electronic ticket storage device as claimed, though the Examiner does not explicitly identify them. Regarding functional integration, the Examiner similarly states the following:

Applicant's argument that the instant disclosure does provide express support for "the order of exchanging electronic merchandise and money may be reversed" is noted. However, the examiner's argument was that the exchange of electronic merchandise and electronic money in the instant disclosure was a separate function of the trusted agents and the money modules, respectively[,] [w]hile the claims specify an embodiment that has one electronic ticket device storage device that stores the electronic money, electronic ticket and a transaction history, not separate devices for each. [Emphasis added.]

Applicant submits that, as explained in detail above with reference to Applicant's Requests for Reconsideration, the specification expressly describes the trusted agent and money modules as functional modules that may be implemented in hardware and/or software (e.g., objects, subroutines, programs, a programmed processor, etc.), and thus the explicit description of the trusted agent and its associated money module being fabricated as *one* tamper-proof "module" (see the first excerpt, *supra*) clearly and reasonably conveys to those skilled in the art that these functional modules may be provided as an integrated functional component (i.e., a module). Applicant respectfully submits that, by way of example, a processor executing software that implements all functions of both the trusted agent and the associated money module is an illustrative implementation that the description reasonably conveys to those skilled in the art, and clearly supports such "an electronic ticket storage device" as claimed.

Even assuming *arguendo* that, (as asserted by the Examiner), the specification does not provide an "express description of an embodiment where the separate transaction functions of the money module and the trusted agents are to be integrated" (emphasis added), Applicant submits that, in view of the foregoing, the specification nevertheless reasonably conveys to those skilled in the art that "separate transaction functions" may be integrated since it explicitly describes integrating the overall functional trusted agent and money modules and explicitly describes integrating security functions. Further, information which is well known in the art need not be described in detail in the specification. See, e.g., Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379-80, 231 USPQ 81, 90 (Fed. Cir. 1986).

Moreover, if a skilled artisan would have understood that Applicant was in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. See, e.g., Vas-Cath, 935 F.2d at 1563.

The Examiner's Response to Arguments that accompanied the Advisory Action, also states the following:

Nor is the argument that the first and second excerpts describe modifying the purchase of electronic money protocol in a manner that would result in a process flow that those skilled in the art would clearly and reasonably understand as being a logical/functional integration of trusted agent and money module, persuasive. Applicant's assertion that modifying the described invention would result in a process flow to support the claims at issue is not clearly shown by any reference to what one skilled in the art would have knowledge of at the time of the invention. There is no support for the allegation that the modification to the security considerations would result in any modification to the described electronic money/ticket vending and refunding protocol described in the instant disclosure.

Further, that one skilled in the art would have been appraised [sic] that the description supports an alternative embodiment, not expressly or inherently described, but obvious with respect to the preferred embodiment, without any further teaching or suggestion from a separate source or based on the knowledge of one skilled in the art, in order to establish possession of this alternative embodiment is not convincing. Applicant's mere allegation that this alternative embodiment is obvious and within the understanding of one skilled in the art cannot be persuasive absent a showing that the differences between the preferred embodiment and the so-called alternative embodiment is taught or suggested in the prior art of one skilled in the art.

Applicant notes that Applicant's position was (and is) not that it would have been "obvious" to modify the disclosed embodiment to provide an embodiment that supports

the claimed invention inasmuch as such an “obviousness” analysis is inapposite with respect to the § 112, ¶ 1 issue. Instead, Applicant presented these detailed remarks as an additional grounds for showing that the specification, in view of the first and second excerpts, clearly and reasonably conveys to a skilled artisan that the trusted agent and money modules may be functionally integrated. While the remarks are detailed, they plainly point out that in view of the disclosed operational flow and the first and second excerpts, the specification reasonably conveys to any skilled artisan that the trusted agent and money module may be logically and functionally integrated because a single, sequential logical flow is conveyed in view of these express teachings taken together.

Additionally, the Examiner’s Response to Arguments that accompanied the Advisory Action states the following:

Applicant’s arguments that an embodiment that stores electronic money transaction history information in a different format and/or different steps from electronic ticket information nevertheless updates a transaction history “including transactions of electronic money and electronic tickets”, is not persuasive as the instant claims specify as electronic ticket storage device that stores electronic money, electronic ticket and a transaction history including transactions of electronic money and electronic tickets. This point is substantial as the prosecution history of Hiroya indicates that this was one of the reasons for patentability.

Applicant first notes that the prosecution history of Hiroya, as well as this “this point” being “one” of the reasons for patentability of Hiroya, is irrelevant and inapposite with respect to the instant application. Entertaining the Examiner’s remark, however, Applicant notes that the USPTO as granted patents to Applicant that are related to the instant application and which include claims directed to integrating the money module

and trusted agent . For example, claim 16 of US Patent No. 5,557,518 (to which the instant application is related via a series of divisional and continuation applications) recites "The system of claim 1, wherein a trusted agent and a money module comprise application software both executed on the same tamper-proof processor." (See US Patent No. 5,557,518 claim 1). The USPTO's examination and confirmation of such a claim is consonant with Applicant's position that the specification supports an electronic ticket storage device as claimed. Applicant further notes, however, that (as described above) to any skilled artisan the specification clearly and reasonably conveys integrating the functions of the trusted agent and the money module, and the skilled artisan would recognize, for example, that any function(s) that may be redundant or duplicative may be further integrated or consolidated when the trusted agent and money module are functionally combined. See, e.g., Vas-Cath, 935 F.2d at 1563, cited *supra*.

For at least the foregoing reasons, Applicant respectfully submits that the written description clearly supports "an electronic ticket storage device" as claimed, and, moreover, reasonably conveys to those skilled in the art that the disclosed trusted agent and associated money module logical components may be functionally integrated into one tamper-proof module to implement "an electronic ticket storage device [that] . . . stores electronic money, an electronic ticket, and a transaction history including transactions of electronic money and electronic tickets, and where said transaction history is updated, by a program stored in said electronic ticket storage device, after a transfer of either electronic money or an electronic ticket".

**B. Terminal Means Separate From Electronic Ticket Storage Means**

As noted above, the "Response to Arguments" section of the final Office Action set forth a new reason for asserting the § 112, ¶ 1 rejection:

[T]he description of the invention indicates that transaction device, Figure 3, #122, includes three components, host processor, 124, trusted agent 120 and money module 6. While [sic] the invention of the claims requires a terminal means separate from the electronic ticket storage means.

The Interview Summary notes that this new reason was also part of the substance of the interview:

With respect to the host processor, the examiner pointed out that the claims include a terminal device or means which supports vending that is separate from the electronic ticket storage device, while the Rosen application discloses the host processor as integrated with the trusted agent and the money module.

In the Request for Reconsideration after final, Applicant respectfully submitted that the specification reasonably conveys to those skilled in the art that the host processor and electronic ticket storage device are coupled in a manner such that, for example, they may be physically separable at least inasmuch as the specification shows them coupled or interfaced via a bus (i.e., bus 126), which those skilled in the art clearly understand may include any of myriad types of bus interfaces (e.g., PCI, ISA, PCMCIA, Smart-card) that are well-known to allow the components to be

detachable/unpluggable/removable. Thus, the specification does not denote that the transaction device's components must be physically integrated or structurally confined/fixed in some type of physically inseparable local bus architecture.

Further, Applicant pointed out that the Rosen application plainly teaches that a ticket storage device may be interfaced to any one of a number of host devices. For example, as explained in Applicant's interference request submission, the disclosure of U.S. Patent No. 5,453,601 (the '601 patent; which is incorporated by reference into the instant application) describes a preferred money module and host processing device (i.e., the external system or device) to which it is interfaced (page 1, lines 28-30; page 37, lines 6-9), and provides examples of such host processing devices in Figure 3 of the '601 patent as including point of sale (POS) terminals, electronic wallets, personal computers/workstations, mainframes and telephones. See also the related text at Col. 9, line 50 to col. 11, line 36. Accordingly, since the specification describes the ticket storage device as capable of being interfaced to a variety of host devices (e.g., depending on the application), it is clearly intended to be portable (i.e., capable of being ported via a bus interface).

Moreover, Applicant also referred to Applicant's interference request submission (see Exhibit A, annexed hereto), which explains that the specification expressly describes the host as providing the communication functions (see, e.g., Page 14, lines 8-13) that allow the ticket storage device to engage in a transaction with another device; therefore, the host is *a fortiori* a terminal, clearly understood by those skilled in the art as being separable from the ticket storage, but interfaced thereto to provide the

terminal functions required by the ticket storage device for transacting. [Applicant notes that Hiroya similarly shows that the ticket storage device must be interfaced with a host (terminal means) to effect a transaction.]

Applicant further noted that there is no disclosure expressly requiring the ticket storage device to be permanently and immutably fixed to the host. Therefore, it cannot be said that the Rosen application somehow conveys that the terminal means cannot be separate from a ticket storage device.

Indeed, to the contrary, for at least the reasons explained above, the specification clearly supports a terminal means being separate from an electronic ticket storage means.

In the Examiner's Response to Arguments that accompanied the Advisory Action, the Examiner states the following:

Applicant's argument regarding the host processor being coupled to the money module and the trusted agent through a bus 126, see Figure 3, which those skilled in the art clearly understand may include any of myriad types of bus interfaces that are well-known to allow that components to be detachable/unpluggable/removable, is not persuasive. The same Figure 3, shows a box 122 that clearly conveys that the "host processor" is not external to the money module or the trusted agent, but rather is included as a complete device.

Applicant respectfully submits that Figure 3 is merely a schematic diagram illustrating an embodiment of a transaction device. To those skilled in the art, the box—which is merely schematic—does not denote that the ticket storage device is necessarily, permanently and immutably fixed to the host processor. Applicant submits that the specification must be considered as a whole for all that it describes, and that

the Examiner's remark which focuses solely on a box in one figure summarily and improperly disregards the entirety of the specification and Applicant's detailed reference to the disclosure that clearly and reasonably supports a terminal means being separate from an electronic ticket storage means.

**IX. Conclusion**

For the foregoing reasons, Applicant submits that the specification reasonably conveys to an ordinarily skilled artisan that at the time of filing Applicant was in possession of the claimed invention. Applicant therefore respectfully requests that the Examiner's rejection be reversed.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: September 20, 2002

By:



David V. Rossi

Registration No. 36,659

**CORRESPONDENCE ADDRESS:**

MORGAN & FINNEGAN, L.L.P.

345 Park Avenue

New York, New York 10154

(212) 758-4800 Telephone

(212) 751-6849 Facsimile

**APPENDIX OF CLAIMS INVOLVED IN THIS APPEAL**

1. An electronic ticket vending system comprising:

an electronic ticket vending device that generates an electronic ticket and executes at least one of vending and refunding by exchanging the generated electronic ticket with electronic money;

a communication line connected to said vending device;

at least one host processor connected to said communication line that executes input, output, transmission and reception for executing at least one of vending and refunding of an electronic ticket; and

an electronic ticket storage device, having an interface that electronically connects to said host processor, where said electronic ticket storage device stores electronic money, an electronic ticket, and a transaction history including transactions of electronic money and electronic tickets, and where said transaction history is updated, by a program stored in said electronic ticket storage device, after a transfer of either electronic money or an electronic ticket;

where in response to an electronic ticket purchase request or an electronic ticket refund request, by at least said host processor or said electronic ticket storage device, at least said electronic ticket or said electronic money is sent from said electronic ticket vending device via said communication line.

2. The electronic ticket vending system of claim 1, wherein said electronic ticket vending device further comprises: a processor that executes a software protocol that produces an electronic ticket from at least data indicating a ticket publication source and data indicating the price of a ticket; an interface for transmission and reception of an electronic ticket, an interface for transmission and reception of electronic money; and wherein said electronic ticket vending device stores an encryption key, electronic money, and a transaction history of transmitting or receiving electronic money or an electronic ticket.

3. The electronic ticket vending system of claim 2, wherein said electronic ticket vending device stores a secret key of an asymmetric encryption algorithm which varies with each merchant and a public key forming a counterpart to said secret key.
4. The electronic ticket vending system of claim 1, wherein said electronic ticket storage device further comprises a processor for controlling transmission and reception of an electronic ticket and electronic money, and storage of said transaction history.
5. The electronic ticket vending system of claim 4, wherein said electronic ticket storage device stores an electronic signature which is produced by digitally signing ticket data.
6. An electronic ticket vending method in a system comprising an electronic ticket vending device, at least one host processor, and a communication line connecting said electronic ticket vending system and said at least one host processor, said method comprising:
  - a step of sending a request to purchase an electronic ticket to said electronic ticket vending device from at least one of said host processors connected to an electronic ticket storage device having an interface that electronically connects to said host processor, where said electronic ticket storage device stores electronic money, an electronic ticket, and a transaction history including transactions of electronic money and electronic tickets, and where said transaction history is updated by a program stored in said electronic ticket storage device after a transfer of either electronic money or an electronic ticket;
  - a step of sending a request for ticket payment to said electronic ticket storage device, when said electronic ticket can be vended from said electronic ticket vending device;

a step of sending electronic money, in an amount consistent with said request, to said electronic ticket vending device from said electronic ticket storage device via said communication line;

a step of sending said electronic ticket to said electronic ticket storage device from said electronic ticket vending device after said electronic money is received; and

a step of receiving said sent electronic ticket via said host processor and storing it in said electronic ticket storage device connected to said host processor.

7. The electronic ticket vending method of claim 6, further comprising:

a step of receiving said electronic money from said electronic ticket storage device by said electronic ticket vending device;

a step of recording that said electronic money was received from said electronic ticket storage device; and

a step of sending said electronic ticket to said electronic ticket storage device; and

a step of recording that said electronic ticket was sent to said electronic ticket storage device.

8. The electronic ticket vending method of claim 7, further comprising:

a step of receiving said electronic ticket to be refunded from said electronic ticket storage device by said electronic ticket vending device;

a step of recording that said electronic ticket to be refunded was received from said electronic ticket storage device;

a step of sending said electronic money to said electronic ticket storage device; and

a step of recording that said electronic money was sent to said electronic ticket storage device.

9. The electronic ticket vending method of claim 8, further comprising:

a step of sending said electronic money to said electronic ticket vending device from said electronic ticket storage device;

a step of recording that said electronic money was sent to said electronic ticket vending device;

a step of receiving said electronic ticket by said electronic ticket storage device; and

a step of recording that said electronic ticket storage device received said electronic ticket.

10. The electronic ticket vending method of claim 9, further comprising:

a step of sending said electronic ticket to be refunded to said electronic ticket vending device from said electronic ticket storage device;

a step of recording that said electronic ticket to be refunded was sent;

a step of receiving said electronic money from said electronic ticket vending device by said electronic ticket storage device; and

a step of recording that said electronic ticket storage device received said electronic money.

11. An electronic ticket vending system comprising:

an electronic ticket vending device having a processor programmed to generate an electronic ticket and execute at least one of vending and refunding by exchanging the generated electronic ticket with electronic money;

a communication line connected to said vending device;

at least one host processor connected to said communication line programmed to execute input, output, transmission and reception for executing at least one of vending and refunding of an electronic ticket; and

an electronic ticket storage device having an interface that electronically connects to said host processor, where said electronic ticket storage device has a processor programmed to store electronic money, an electronic ticket, and a transaction history including transactions of electronic money and electronic tickets, and where said processor is programmed to update said transaction history after a transfer of either electronic money or an electronic ticket;

where in response to receiving an electronic ticket purchase request or an electronic ticket refund request, said electronic ticket vending device is programmed to send at least said electronic ticket or said electronic money to said electronic ticket storage device via said communication line.